

**REMARKS**

Applicant has carefully reviewed this Application in light of the Office Action mailed May 11, 2007. Claims 18-47 are pending in this Application and Claims 1-17 were previously cancelled due to an election/restriction requirement. Claims 18-23 and 25-47 stand rejected under 35 U.S.C. § 102(b) and Claim 24 stands rejected under 35 U.S.C. § 103(a). Applicant respectfully requests reconsideration and favorable action in this case.

**Rejections under 35 U.S.C. § 102**

Claims 18-23 and 25-47 stand rejected by the Examiner under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,262,818 issued to Etienne Cuche ("*Cuche*").

*Cuche* discloses a method for numerical reconstruction of both amplitude and quantitative phase contract images from a digital hologram. (Col. 4, lines 10-12). The numerical method for the hologram reconstruction comprises the calculation of a digital replica of the reference wave called the digital reference wave. (Col. 4, lines 12-15). An array of complex numbers referred to as a digital phase mask is also calculated in order to correct the phase aberrations of the imaging system. (Col. 4, lines 15-17).

Claim 18 recites a method for detecting differences between complex images, comprising "comparing the modified complex image with the second complex image."

Claim 26 recites a method for detecting differences between complex images, comprising "comparing high frequency components of the transformed complex image with high frequency components of the second complex image."

Claim 30 recites a system for detecting differences between complex images, comprising processing resources operable to "compare the modified complex image with the second complex image."

Claim 38 recites a method for detecting differences between complex images comprising "correcting the aberration value difference by . . . comparing the modified first complex image with the second complex image in a high frequency range."

Applicant submits that *Cuche* fails to teach, either expressly or inherently, all of the elements of the claimed embodiment of the invention. Specifically, *Cuche* fails to teach, either expressly or inherently, "comparing the modified complex image with the second

complex image” as recited in Claim 18. Additionally, *Cuche* fails to suggest a method for detecting differences between complex images comprising “comparing high frequency components of the transformed complex image with high frequency components of the second complex image,” as recited by Claim 26. *Cuche* also fails to disclose a system for detecting differences between complex images, comprising processing resources operable to “compare the modified complex image with the second complex image,” as recited by Claim 30. Further, *Cuche* fails to teach or suggest a method for detecting differences between complex images comprising “correcting the aberration value difference by . . . comparing the modified first complex image with the second complex image in a high frequency range,” as recited by Claim 38.

In rejecting Claims 18, 26, 30 and 38, the Examiner alleges that Col. 2, lines 9-14, 32-67 and Col. 23 lines 10-37 of *Cuche* disclose “comparing the modified complex image with the second complex image” as recited in Claims 18, 30 and 38 and “comparing high frequency components of the transformed complex image with high frequency components of the second complex image” as recited in Claim 26. (Office Action, Pages 3, 5, 6, and 8). Because of the volume of text of the cited portions of *Cuche*, Applicant has not repeated the cited portions in this response. However, Applicant notes that *Cuche* fails to disclose comparison of a modified first complex image with a second complex image. For example, Col. 2, lines 9-14, 32-67 of *Cuche* does not disclose a comparison of two complex images. In addition, Col. 23, lines 10-37 of *Cuche* merely discloses a comparison of a reconstructed image with the previous iteration of the same image. For at least these reasons, Applicant respectfully submits that Claims 18, 26, 30 and 38 are not anticipated by *Cuche*.

Given that Claims 19-23 and 25 depend from Claim 18, Claims 27-29 depend from Claim 26, Claims 31-37 depend from Claim 30, and Claims 39-47 depend from Claim 38 Applicant submits that Claims 19-23, 25, 27-29, 31-37 and 39-47 are also allowable. As such, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(b) and full allowance of Claims 18-23 and 25-47.

**Rejections under 35 U.S.C. § 103**

Claim 24 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over *Cuche* in view of U.S. Patent No. 4,850,662 issued to Hsuan S. Chen (“*Chen*”). Although Applicant makes no concessions regarding this rejection, Applicant believes that Claim 24 is allowable at least because it depends from Claim 18 shown to be allowable above. Therefore, Applicant requests reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) and full allowance of Claim 24.

**CONCLUSION**

Applicant appreciates the Examiner's careful review of the application. Applicant has now made an earnest effort to place this case in condition for examination and allowance. For the foregoing reasons, Applicant respectfully requests reconsideration of the rejections and full allowance of Claims 18-47.

Applicant believes there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicant's attorney at 512.322.2581.

Respectfully submitted,  
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